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This dissertation, TRAIT MINDFULNESS AS A MEDIATOR OF RESILIENCE, DEPRESSIVE SYMPTOMS, AND TRAUMA SYMPTOMS, by KIRANMAYI NEELARAMBAM, was prepared under the direction of the candidate's Dissertation Advisory Committee.

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ABSTRACT

TRAIT MINDFULNESS AS A MEDIATOR OF RESILIENCE, DEPRESSIVE SYMPTOMS, AND TRAUMA SYMPTOMS

by

Kiranmayi Neelarambam

The purpose of this dissertation was to explore the role of mindfulness as a resilience resource in depressed and trauma exposed college students (Thompson, Arnkoff, & Glass, 2011). Chapter one reviews current literature that is relevant to the role of mindfulness in resilience and focuses on depression as an outcome. Further, chapter two details the research study. The study proposed and tested a model in which resilience and mindfulness predict trauma symptoms and depressive symptoms and mindfulness mediates the relationship between resilience and trauma and depression symptomology. A total of 529 college students were recruited at a large urban university. They were asked to complete a demographics questionnaire followed by an assessment of their trauma exposure using the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013). Participants were then be asked to complete the Five Factor Mindfulness Questionnaire (Baer, 2003), the Connor Davidson Resilience Scale (Connor & Davidson, 2003), the Center for Epidemiological Studies Depression scale (Radloff, 1977), and the Trauma Symptom Checklist (Briere & Runtz, 1989). To assess how well resilience and mindfulness predict depression and trauma symptomology in trauma exposed individuals vs. individuals who did not endorse trauma exposure, separate hierarchical regression analyses were completed based on trauma exposure and outcome variable. The results showed that while mindfulness significantly predicted trauma symptoms and depressive symptoms in trauma exposed college students

as well as students with no trauma exposure, resilience did not significantly predict the outcome variables. Further, to test the mediational effects of mindfulness on the relationship between resilience and the outcome variables for the trauma exposed and non-trauma exposed college students, the Preacher and Hayes (2008) bootstrapping approach was utilized by performing the analysis using the macro PROCESS. The results indicated that mindfulness mediated the relationship between resilience and trauma symptoms as well as resilience and depressive symptoms in both trauma-exposed and non-trauma exposed college students. Limitations were discussed and implications for practitioners and future research were provided.

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by
Kiranmayi Neelarambam

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CHAPTER 1

MINDFULNESS AS A RESILIENCY RESOURCE: IMPLICATIONS FOR PRACTICE AND RESEARCH

It is generally accepted that resilience is complex and multidimensional in nature. Early interest in the study of resilience in the mental health field was based on understanding adaptation in patients diagnosed with schizophrenia (Masten, Best, & Garmezy, 1990) and children of mothers diagnosed with schizophrenia (Garmezy, 1970). Since then, there has not been one single universally accepted definition for resilience, but it is commonly agreed that it is one's ability to recover from hardship or trauma (Southwick & Charney, 2012). The American Psychological Association (2010) defines resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of threat." As research has accumulated in this area, various factors such as socioeconomic advantage, family history of mental health, maltreatment, poverty, physical health, violence in the community, and calamities that one experiences during their life have emerged as factors associated with resilience (e.g., Beeghly & Cicchetti, 1994; Garmezy, 1991; Luthar, 1991; Masten & Coatsworth, 1995; Moran & Eckenrode, 1992; O'Dougherty-Wright, Masten, Northwood, & Hubbard, 1997; Wells & Schwebel, 1987). A new theme that has emerged in literature about protective factors in psychological health is research about mindfulness (e.g., Eisendrath et al. 2008; Gilbert & Christopher, 2010, Shapiro, Carlson, Astin, & Freedman, 2006). While mindfulness has received significant attention, mindfulness as a trait, has received scant attention in the role it plays in bolstering resilience. The purpose of this chapter is to explore extant literature on the pathways to resilience and to focus on the role that

mindfulness, a construct that has received scant attention as a component of resilience (Thompson, Arnkoff, & Glass, 2011), and to understand its relevance as a pathway to bolster resilience.

As mentioned above, while attempts have been made to define resilience (Shaikh & Kauppi, 2010), there has not been much consensus in the literature, conceptually or empirically, about what encompasses this construct (Luthar, Cicchetti, & Becker, 2000). Various factors contribute to resilience: personal factors such as intellectual functioning, cognitive adaptability, attachment, emotion regulation, positive self-concept, spirituality, coping, optimism, hopefulness, resourcefulness, hardiness, and adaptability (Joseph & Linley, 2006), genetic factors such as development and changes in brain structure and neurobiological systems (Cicchetti & Curtis, 2006), environmental factors, and systemic factors (Luther, Cicchetti, & Becker, 2000). Understanding these factors is crucial to promoting overall resilience in both clinical and non-clinical populations.

Some authors have conceptualized resilience as a personality trait, stemming from early research in hardiness (e.g., Bartone, Ursano, Wright, & Ingraham, 1989; Kobasa, 1979; Ong, Bergeman, Bisconti, & Wallace, 2006). Other researchers have described this construct as a personality trait consisting of equanimity, perseverance, self-reliance, meaningfulness, and existential aloneness (Wagnild & Young, 1993). Connor and Davidson (2003) included multiple dimensions of the concept of resilience: hardiness, clarity of goal/aim, action orientation, strong self-esteem, adaptability, social problem solving skills, humor when faced with stress, patience, and tolerance. Others have focused on resilience as positive adaptation in adversity or risky situations (Masten & Powell, 2003; Waugh, Fredrickson, & Taylor, 2008). According to this approach,

resilient individuals are identified based on their ability to adapt well when faced with a significant amount of risk or adversity (Masten, 2001). Another set of researchers have also focused on factors that bolster resilience that fall into three realms: factors associated with one's self, one's family, and with one's social surroundings (Luthar et al., 2000). In addition to these definitions, some researchers view resilience as a factor that reduces the degree of harm that a stressful event can cause to an individual (e.g., Tugade & Fredrickson, 2004) and yet still others focus on the protective function of resilience (e.g., Patel & Goodman, 2007). Another approach of resilience research has been to focus on its ability to promote mental health (e.g., Fredrickson, 2004).

Along with these various approaches to the definition of resilience, several scales for the measurement of this construct have also emerged. Some of these scales are the Dispositional Resilience Scale (Bartone, 1989), the Resilience Scale (Wagnild & Young, 1993), the Ego Resiliency 89 (Block & Kremen, 1996), the Connor-Davidson Resilience Scale – CD-RISC (Connor & Davidson, 2003), Youth Resiliency: Assessing Developmental Strengths (Donnon & Hammond, 2007), the Resilience Scale for Adults - RSA (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003), the Brief Resilience Scale (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard; 2008), and the Child and Youth Resilience Measure (Ungar et al., 2008). The CD-RISC, the RSA, and the Brief Resilience Scale emerged with the highest ratings in a meta-analysis of the psychometric properties of various resilience scales (Windle, Bennett, & Noyes, 2011). Connor and Davidson (2003), the authors of the CD-RISC, view resilience as a personal trait that reflects one's ability to cope. Research on the RSA can inform the various dimensions involved in the conceptualization of resilience. Smith et al. (2008) developed the Brief

Resilience Scale to focus on one's ability to recover from a stressful or traumatic event. It is considered to be good measurement to learn about outcome.

Mindfulness

Mindfulness originated from the Buddhist tradition and is often referred to as a skill, ability, or technique which involves paying attention to the present moment with intentionality and without judgment (Bishop et al., 2004; Kabat-Zinn, 2003). The Pali word *Sati*, is the origin of mindfulness, which means to be aware, attend, and remember (Bodhi, 2000). This term has also been defined as “moment-by-moment awareness” (Germer, Seigel, & Fulton, 2005; p. 6) and as “a state of psychological freedom that occurs when attention remains quiet and limber, without attachment to any particular point of view” (Martin, 1997, p. 291). Because the words for mind and heart are the same in Asia, it is interesting to note that mindfulness includes compassion and affection in the process of paying mindful attention to the present moment with an open mind (Kabat-Zinn, 2003). Gautama Buddha, the founder of Buddhism recommended mindfulness and meditation as a spiritual path to overcome *dukkha*, which is interpreted as suffering and dissatisfaction that arises in response to life events that are inevitable (Carlson, 1989; Schumacker & Woener, 1994). It is recommended by this practice that when practicing mindfulness, one should gently bring one's attention back to the present moment whenever one's mind wanders to the past or the future (Kabat-Zinn, 1990). In an attempt to provide a comprehensive definition of mindfulness, Bishop et al. (2004) wrote about the two components of mindfulness:

The first component involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition

of mental events in the present moment. The second component involves adopting a particular orientation toward one's experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance. (p. 232).

While the information provided above highlights the challenge of defining mindfulness, research to date appears to spread down two paths: research that explores the role of trait mindfulness or dispositional mindfulness (e.g., Brañstro'm, Duncan, & Moskowitz, 2011; Brown, Goodman, & Inzlicht, 2013; Frewen, Dozois, Neufeld, Lane, Densmore, Stevens, & Lanius, 2010) and research that explores the role played by mindfulness-based interventions (e.g., Bach & Hayes, 2002; Davidson et al., 2006; Gaudiano & Herbert, 2006; Semple, Lee, Dinelia, Miller, 2010). While both of these paths are important and necessary to inform better practices in the field of psychology, exploring trait mindfulness as a resilience pathway can inform practices that are prevention-based and strengths-oriented.

In general, researchers have suggested that mindfulness promotes physical and psychological wellbeing (e.g., Bernstein, Tanay, & Vujanovic, 2011; Bowlin & Baer, 2012; Tamagawa, et al., 2013). Some research has investigated the benefits of trait mindfulness and found that mindfulness has a strong predictive relationship with stress symptoms and mood disturbances (Tamagawa, et al., 2013), Others have found that individual differences in trait mindfulness is predictive of psychological health (e.g., Baer, 2003; Baer, Smith, & Allen, 2004; Brown & Ryan, 2003). It has also been used as an intervention tool with the development of various techniques to treat psychological problems. Some of these interventions are dialectical behavior therapy (DBT; Linehan, 1993), acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson; 1999);

mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1982); and mindfulness-based cognitive therapy (MBCT; Segal, Teasdale, Williams, Gemar, 2002). Kabat-Zinn's (2003, 2005) MBSR program focuses on the teaching of traditional mindfulness skills such as mindful breathing, body scanning, mindful walking, and mindful eating. MBCT uses mindfulness methods in conjunction with Cognitive Therapy (Segal, et al., 2002). ACT (Hayes, et al., 1999) is a third wave therapy which uses experiential activities, paradoxes, and metaphors to decrease avoidance of experiences and increase involvement with and acceptance of the present moment. DBT (Linehan, 1993) is a manualized treatment program for those diagnosed with borderline personality disorder. Meta-analyses on the effectiveness of mindfulness suggest that this intervention is effective in reducing symptoms of anxiety and depression in non-clinical populations (Chiesa & Serretti, 2009), chronic physical ailments (Bohlmeijer, Prenger, Taal, & Cuijpers, 2010), and cancer patients (Ledesma & Kumano, 2009). Many of these mindfulness interventions have been found to be effective in improving mental health symptoms, general sense of well-being, as well as resilience (e.g., Baer, 2003, Brown & Ryan, 2003, Shapiro, Brown, & Biegel, 2007). While these interventions can be effective in treatment outcomes as discussed above, one also needs to address the likelihood that these outcomes could be influenced by individual differences in trait mindfulness ((Shapiro, Brown, Thoresen, & Plante, 2011), differential responses to different mindfulness practices (Feldman, Greeson, & Senville, 2010), as well as the challenge that is inherent in measuring and conceptualizing trait mindfulness (Grossman et al., 2010; Kuyken et al., 2008).

Mindfulness and Resilience

As noted above, various contributing factors promote resilience. Resilience resources such as social support, optimism, and personal mastery (e.g., Smith et al., 2011) have been explored. Some studies have investigated the effectiveness of mindfulness in strengthening resilience (e.g., Coholic, Eys, & Loughheed, 2012; Grabbe, Nguy, & Higgins, 2012). Few studies explore mindfulness as a resilience resource in adults (e.g., Frewen, Dozois, Neufeld, & Lanius, 2012; Frye & Spates, 2012) despite the fact that mindfulness has been associated with improvement in other areas of well-being such as emotion regulation, physical health, depression, and trauma symptoms (Orzech, Shapiro, Brown, & McKay, 2008; Thompson, Arnkoff, & Glass, 2011).

As discussed above, mindfulness has gained tremendous significance in promoting health and wellbeing. Notably, while mindfulness has gained significance as an intervention in various areas of treatment for mental health symptoms, its significance in bolstering resilience in trauma exposed individuals needs greater attention than what this relationship has received so far (for one such study see Bernstein, Tanay, & Vujanovic, 2011), in light of the firmly established benefits of mindfulness in a variety of mental health issues, including trauma. Bernstein, Tanay, and Vujanovic (2011) found that mindfulness and acceptance significantly lowered PTSD symptoms as well as depressive symptoms in a sample of adult smokers. It is important to continue this work by exploring mindfulness as a mediator in the relationship between resilience, trauma, and depression.

Depression

According to a recent report by the Center for Disease Control (CDC, 2010), one in ten adults in the United States is affected by depression. It is an especially growing

concern in the college student population (Miller & Chung, 2009). It is identified as a common co-morbid disorder occurring with many mental and physical health conditions (e.g., Alderson, Foy, Glidewell, McLintock, & House, 2012). As Seitz (1971) notes, depression occurs when:

some significant reinforcer has been withdrawn, weakening the person's behavioral repertoire. There is loss and deprivation, i.e., loss of love, status or prestige, security or recognition, etc. Factors such as — (a) sudden environmental changes, (b) punishment and aversive control, and (c) shifts in reinforcement contingencies—give rise to depression, if there is a reduced frequency of positively reinforced behaviors. (p. 181).

Genetic research on depression has been effective in identifying biological factors that contribute to depression (e.g. Rende, 2012). Feder, Nestler, and Charney (2009) also identified developmental factors such as child abuse that contribute to depression. Furthermore, cognitive theories of depression suggest that some individuals are cognitively vulnerable to depression because of their tendency to negatively interpret stressful life events resulting in lowered self-esteem and hopelessness for the future (Haefel & Grigorenko, 2007).

Resilience and Depression

The authors, Haefel and Grigorenko (2007) suggested that while one cannot eliminate stressful life events, it is possible to change one's cognitive vulnerability by intervening to increase resilience at three points in time: before cognitive vulnerability occurs, after vulnerability occurs but before the onset of depression, or after the onset of depression. In addition to cognitive vulnerability, depressed individuals may have

difficulty in social and personal relationships, thus resulting in decreased social support which can then affect physical health (Riggs, Byrne, Weathers, & Litz, 1998) and recovery from depression.

Depressive symptoms have been found to be reduced in severity in the presence of resilience in trauma exposed individuals (Wingo et al., 2010). Additionally, research has also found that there are environmental aspects that can serve to protect individuals vulnerable to depression (e.g., Kaufman et al., 2006). Healthy child rearing practices and social support, in addition to mental health interventions have been beneficial in bolstering resilience against depression (Southwick & Charney, 2012). Interventions that promote realistic optimism, cognitive reappraisal, and coping self-efficacy can be beneficial in combatting depressive symptomology (Southwick & Charney, 2012). There are several psychosocial factors that can all promote resilience such as: optimism, positive emotion, close-knit families, positive role models, previous experience with success in challenging situations, ability for cognitive reframing, emotion regulation, coping self-efficacy, social support, altruism, supporting a strong cause, good physical health, and commitment to improving one's skills, (Southwick & Charney, 2012). In addition to these factors, techniques such as mindfulness have been proven to bolster resilience to reduce depressive symptoms (e.g., Teasdale et al., 2000; Kuyken et al., 2008; Segal et al., 2010).

Mindfulness and Depression

A number of reviews have attested to the effectiveness of mindfulness based therapies in general (e.g., Baer, 2003; Carmody & Baer, 2009; Grossman, Niemann, Schmidt, & Walach, 2004; Ledesma & Kumano, 2008; Praissman, 2008; Smith, Richardson, Hoffman, & Pilkington, 2005; Teixeira, 2008). Only a few of these reviews

are quantitative in nature (e.g., Baer, 2003; Grossman et al., 2004; Hoffman, Sawyer, Witt, & Oh, 2010; Ledesma & Kumano, 2008).

There has been strong evidence to support the effectiveness of mindfulness interventions, specifically, MBCT, in reducing the recurrence of major depression (Eisendrath et al. 2008; Frewen, Evans, Maraj, Dozois, & Partridge, 2008; Jain et al. 2007; Piet & Hougaard, 2011; Ramel et al. 2004; Segal et al., 2002; Shapiro et al. 2007; Piet & Hougaard, 2011; Segal et al., 2002; Teasdale, Segal, & Williams, 1995; Teasdale, Segal, Williams, Ridgeway, Soulsby, & Lau, 2000). Interestingly, this approach has been found to be as effective as using antidepressants and has also been successful in treating active depression and treatment resistant depression (Sipe & Eisendrath, 2012). Emotion regulation, one's ability to regulate one's affective response to situations (Gross, 1998) is often negatively impacted by depressive symptoms (e.g., Gross & Munoz, 1995; Werner-Seidler, Banks, Dunn, & Moulds, 2013). Further, previous research has indicated that mindfulness and emotion regulation have a significant relationship (e.g., Arch & Craske, 2006; Chiesa, Serretti, & Jakobsen, 2013; Frye & Spates, 2012). However, evidence to support mindfulness as a component of resilience has been scant. Therefore, exploring the role of trait mindfulness in the context of resilience is crucial to improving treatments for various mental health issues.

Implications for Practitioners

The review of extant literature suggests that while the effectiveness of mindfulness-based interventions is a welcome addition to the tools that practitioners can use in their interventions, trait mindfulness can confound the findings significantly. Focusing on the trait mindfulness of all of our clients as we inventory their strengths,

coping skills, and resiliency resources can be beneficial in helping us find tangible pathways to boost their resilience and identify interventions that are most appropriate. Mood disorders are a common area of presenting concerns for clients in all areas of therapy practice. Considering the vast body of literature that recommends the use of mindfulness techniques for a variety of physical and health issues, surprisingly little attention has been paid to its preventative value.

Mindfulness has been known to promote insight, problem-solving, enhance attention, enhanced acceptance, and greater overall sense of well-being (Halliwell, 2010). As practitioners working with a wide range of mental health concerns across the lifespan, harnessing the holistic focus that mindfulness brings can be beneficial in preventive measures. Further, as we once discovered as research progressed in the field of resilience, resilience to interpersonal loss was common and healthy and not rare and pathological (Bonnano, 2004). Similarly, considering the relative infancy of trait mindfulness research, keeping an open mind about mindfulness as a disposition and exploring the possibility of its presence in our clients can help in understanding this construct better and hopefully lead consensus in its measurement and definition.

Additionally, Kabat-Zinn (2003) recommends that practitioners who use mindfulness interventions should practice mindfulness themselves because of the benefits that this practice can provide and also as a way to enhance one's resilience. Preventing burnout and compassion fatigue is a crucial commitment that all practitioners need to make and mindfulness practices can play a pivotal role in safeguarding our mental well-being and bolstering our resilience as well as that of our clients.

Implications for Future Research

Mindfulness research, despite the attention it has received for many years, is relatively nascent for the following reasons. This construct is very complex in nature and therefore challenging to define and to measure (Frewen, Evans, Maraj, Dozois, & Partridge, 2008; Grossman, 2008; Hart, Ivztan, & Hart, 2013). First, trait mindfulness as a construct is rather challenging to define (Van Dam, Earlywine, & Borders, 2010). Advancing the measurement of mindfulness is an ongoing process and more research in this area is vital to the growth of this construct as an intervention. While several measures of this construct exist, there is more to be understood about what mindfulness is and for this knowledge to contribute to measurements that are sounder in their scope. Additionally, longitudinal research that measures trait mindfulness and its subsequent role in hardships, trauma, and physical health issues, mental health problems, and other threats to one's wellbeing needs to be explored. Longitudinal studies can shed light on various nuances that are currently missing from our knowledge base. For example, trait mindfulness and age of onset of risk factors are an important group of variables that need to be studied to understand if the protective aspect of mindfulness is salient at various stages of development.

As noted above, mindfulness is an eastern tradition. It would be interesting to examine the role that trait mindfulness plays in the lives of individuals from eastern nations in comparison to western individuals. Additionally, one of the stereotypes of clients from eastern countries in the United States is their reluctance to seek help for mental health concerns (Shin, 2002). Exploring their inclination to participate in therapeutic activities that are based in mindfulness practices via research can help us systemize optimal methods of helping this population. Further, exploring the overlap of

religious practice and types of religious practice on trait mindfulness can help us understand a very likely pathway between religion and mindfulness, and potentially inform resilience literature on types of religious practices that lend themselves to mindfulness and in turn, to resilience.

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CHAPTER 2

TRAIT MINDFULNESS AS A MEDIATOR OF RESILIENCE, DEPRESSIVE SYMPTOMS, AND TRAUMA SYMPTOMS

Mindfulness, originally an eastern tradition (Kabat-Zinn, 2003), has become increasingly popular in the western world, primarily as a meditation practice (Baer, 2003). Several definitions of mindfulness have been used by different authors. Brown and Ryan (2003) described mindfulness as a dispositional quality that enables one to stay in the present moment without judgment. Kabat-Zinn (2003) described this construct as developing awareness through paying purposeful attention to the present moment without judgment, achieved through the practice of meditation. In an attempt to operationalize the definition of mindfulness, Bishop et al., 2004 described it as follows:

The first component involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment. The second component involves adopting a particular orientation toward one's experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance. (p. 232)

Some researchers have indicated that trait mindfulness, or a dispositional quality rather than a formal practice, tends to promote positive physical and psychological wellbeing (e.g., Bernstein, Tanay, & Vujanovic, 2011; Bowlin & Baer, 2012; Tamagawa, et al., 2013). As an intervention, mindfulness has also received much attention for a variety of psychological and medical issues. Interesting empirical evidence supporting the use of various mindfulness-based treatments has been increasing (Chiesa & Serretti, 2010). Some of these interventions are dialectical behavior therapy (DBT; Linehan,

1993), acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson; 1999); mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1982); and mindfulness-based cognitive therapy (MBCT; Segal, Teasdale, Williams, & Gemar, 2002). Some of the areas that have been investigated and found to be positively impacted by mindfulness are chronic pain (Grossman, Tiefenthaler-Gilmer, Raysz, & Kesper, 2007), cancer (Foley, Baillie, Huxter, Price, & Sinclair, 2010), depression and anxiety (Hofmann, Sawyer, Witt, & Oh, 2010), trauma (Chopko & Schwartz, 2009), substance abuse (Witkiewitz, Marlatt, & Walker, 2005), disordered eating (Masuda, Price, & Latzmann, 2012), emotion regulation (Chiesa, Serretti, & Jakobsen, 2013), and gambling (deLisle, Dowling, & Allen, 2012). In fact, one study found that trait mindfulness, a natural tendency or disposition to be more mindful in one's daily life (Barnhofer, Duggan, & Griffith, 2011) moderated the effectiveness of mindfulness intervention, specifically mindfulness-based stress reduction (MBSR), in college students (Shapiro, Brown, Thoresen, & Plante, 2011). The authors (Shapiro et al., 2011) posited that it would be beneficial to know which individuals would respond better to mindfulness-based interventions by measuring their trait mindfulness, a construct that this study measures.

Trauma and Mindfulness

One of the many psychological conditions that mindfulness has been proven to address is trauma (e.g., Smith et al., 2011). The criteria for trauma exposure according to The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM 5; American Psychiatric Association (APA), 2013) include directly experiencing the traumatic event, witnessing the traumatic event in person, learning that the traumatic event occurred to a close family member or close friend (with the actual or threatened

death being either violent or accidental), or experiencing first-hand repeated or extreme exposure to aversive details of the traumatic event (not through media, pictures, television or movies unless work-related). The DSM 5 (5th ed., APA 2013) lists events that constitute as traumatic events:

The directly experienced traumatic events in Criterion A include, but are not limited to, exposure to war as a combatant or civilian, threatened or actual physical assault, (e.g., physical attack, robbery, mugging, childhood physical abuse), threatened or actual sexual violence (e.g., forced sexual penetration, alcohol/drug-facilitated sexual penetration, abusive sexual contact, noncontact sexual abuse, sexual trafficking), being kidnapped, being taken hostage, terrorist attack, torture, incarceration as a prisoner of war, natural or manmade disasters, and severe motor vehicle accidents (p. 274)

In the United States, about 80% of the general population has experienced one or more traumatic event (Breslau, 2009; Kessler et al., 1995). Despite this high percentage, only a small portion of these individuals meet the full criteria for a posttraumatic stress disorder (PTSD) diagnosis as defined by the DSM 5 (APA, 2013).

Often, trauma survivors will experience many of the symptoms outlined in the DSM 5, but do not meet full criteria for a PTSD diagnosis. In addition to these rather energy-sapping trauma symptoms, trauma survivors often experience co-morbid issues such as anxiety, panic, substance abuse, psychosomatic symptoms, depression and emotion dysregulation (e.g., Breslau, Davis, Peterson, & Schultz, 2000; Chilcoat and Breslau, 1998; Kessler, Davis, & Kendler, 1997; van der Kolk, Pelcovitz, Roth, Mandel, McFarlane, Herman, 1996). Symptoms of depression, specifically, can create a huge

challenge for trauma survivors in their recovery process (Subica, Claypoole, & Wylie, 2012).

Mindfulness has been increasingly gaining focus in trauma treatments (Orsillo & Batten, 2005; Vujanovic, Youngwirth, Johnson, & Zvolensky, 2009). Following the increased interest in mindfulness practices and the importance of the mind-body, the formulation of mindfulness-based therapies has been burgeoning. For example, Chopko and Schwartz (2009) found that some aspects of trait mindfulness positively influenced posttraumatic growth. Further, DBT, a form of mindfulness-based treatment, is effective in treating women who have been diagnosed with PTSD and borderline personality disorder (Harned & Linehan, 2008). Waelde et al. (2008) investigated the usefulness of a mindfulness meditation intervention in treating PTSD following Hurricane Katrina and found a reduction in trauma symptoms in New Orleans mental health professionals. Co-occurring symptoms of trauma, such as depression and relapse of depression (Ma and Teasdale 2004; Mason and Hargreaves 2001; Sephton et al. 2007), sleep disturbances (Carlson and Garland 2005; Shapiro et al. 2003), anxiety (Finucane and Mercer 2006; Kabat-Zinn et al. 1992), and suicidality (Williams et al. 2006) have also been found to be improved with the use of mindfulness practices. Researchers also acknowledge the limitations to generalizability of the findings in mindfulness as a treatment for trauma because research is often focused on combat veterans (Wahbeh, Lu, & Oken, 2011). Additionally, studies that link mindfulness as a component of resilience in trauma survivors are scant.

Depression and Mindfulness

The Center for Disease Control (CDC, 2010) reports that one in ten adults in the United States is afflicted by depression. The college student population is one of the groups in which depression is becoming a major concern (Ibrahim, Kelly, Adams, & Glazebrook, 2013; Miller & Chung, 2009). In a study on college students, Miller and Chung (2009) found that a considerable 43.2% of the participants reported feeling too depressed to function well at least once in a 12-month period. One aspect of depression that is especially difficult to treat is anhedonia (Dunn, 2012). In addition to this challenge, the co-morbidity associated with depression can be rather exigent. Depression is often associated with other psychiatric and medical conditions such as trauma exposure and health issues (e.g., Alderson et al., 2012). There has been substantial research in exploring the relationship between trauma exposure and depression, recurrent depressive episodes, depressed affect, negative cognitions, and rumination (e.g., Brown & Ryan, 2003; Coffey & Hartman, 2008; Zolensky, et. al., 2006; Shapiro, Brown & Biegel, 2007; Michalak et al., 2008; Breslau, Davis, Peterson, & Schultz, 2000; Rutter, Krill, Weatherill, Orazem & Taft, 2013; Salguero, Fernandez-Berrocal, Iruarrizaga, Cano-Vindel, & Galea, 2011). Depression in trauma exposed individuals adds a layer of complexity to treatment. Evidence suggests that mindfulness can serve as a protective factor against depressive symptoms in both clinical and nonclinical populations (e.g., Eisendrath et al. 2008; Gilbert & Christopher, 2010). Eisendrath et al. (2008) found that increased mindfulness was associated with reduced severity in depression in currently depressed clinical patients following MBCT treatment. Gilbert and Christopher (2010) examined the relationship between trait mindfulness-based attention and depression and negative cognitions in college students and found that the relationship was

inverse and significant. Moreover, emotion regulation, often associated with depression and with trauma exposure, has been known to be addressed by mindfulness techniques (Chiesa, Serretti, Jakobsen, 2013).

Resilience, Trauma, and Depression

Apart from mindfulness, several other resilience resources such as social support, optimism, personal mastery (e.g., Smith et al., 2011), coping (Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012), and spirituality (Manning, 2013) have been explored. However, studies such as those by Frewen, Dozois, Neufeld, and Lanius (2012) and Frye and Spates (2012) that explore the effect of mindfulness on trauma, depression, in the same participant sample are rather scant. Further, the role of mindfulness as a component of resilience, rather than a separate entity, has not been explored (e.g., Thompson, Arnkoff, & Glass, 2011).

Resilience has a long history as a focus of research in the mental health field (Masten, Best, & Garmezy, 1990). Several definitions of resilience have been used in the literature (e.g., Kobasa, 1979; Connor & Davidson, 2003). For the purpose of this study, the definition of resilience will be the one provided by Connor and Davidson (2003): “Resilience *embodies the personal qualities that enable one to thrive in the face of adversity*” (p. 76). Emerging from literature that examined protective factors in children of mothers diagnosed with schizophrenia (Garmezy, 1970), resilience has been found to play an important role in reducing depressive symptoms (e.g., Southwick & Charney, 2012) and trauma symptoms (e.g., Olatunji, Armstrong, Fan, & Zhao, 2014; Philippe, Laventure, Beaulieu-Pelletier, Serge Lecours, & Lekes, 2011). Various factors contribute to resilience: personal factors such as intellectual functioning, cognitive adaptability,

attachment, emotion regulation, positive self-concept, spirituality, coping, optimism, hopefulness, resourcefulness, hardiness, and adaptability (Joseph & Linley, 2006), genetic factors such as development and changes in brain structure and neurobiological systems (Cicchetti & Curtis, 2006), environmental factors, and systemic factors ((Luther, Cicchetti, & Becker, 2000). Understanding and identifying ways of promoting resilience using these factors is essential to promoting health and wellbeing (Davydov, Stewart, Ritchie, & Chaudieu, 2010; Herrman et al., 2011). Specifically, mindfulness has also been associated with promoting wellbeing (Baer, Lykins, & Peter, 2012; Hoffman, 2010).

As discussed above, resilience has tremendous significance in promoting health and wellbeing, especially when faced with adversity. Notably, while mindfulness has gained significance as an intervention in various areas of treatment for mental health symptoms, its significance in bolstering resilience in trauma exposed individuals needs greater attention than what this relationship has received so far (For on such study, see Bernstein, Tanay, & Vujanovic, 2011). However, this study did not explore the role that trait mindfulness plays in strengthening resilience in individuals who have trauma and depressive symptoms. The purpose of this study is to examine if trait mindfulness can significantly predict the variance in trauma symptoms and depressive symptoms beyond the variance predicted by resilience.

Research Question and Hypotheses

The question that this study hopes to answer is: What role does mindfulness play in resilience, depression and trauma symptomology in college students?

The present study is being undertaken to prove the following hypotheses:

- 1) Trait mindfulness and resilience will significantly predict trauma symptoms

- 2) Trait mindfulness and resilience will significantly predict depressive symptoms
- 3) Trait mindfulness will significantly mediate the relationship between resilience and trauma symptoms
- 4) Trait mindfulness will significantly mediate the relationship between resilience and depressive symptoms

Method

Participants

Participants recruited for this study were undergraduate students at a large urban university, 18 years or older at the time of the data collection. Students were recruited through the student pool in the Sona System of the department. The set questionnaires were hosted on Qualtrics, a web-based survey tool. Once students clicked on the link, they were first directed to an informed consent page providing details about the study and asking for their consent to participate in this study. Students had the option to print the informed consent page for their records. If they chose to participate, they were then directed to complete the questionnaires. Participants had the opportunity to discontinue the study at any point during the survey. Also, they were directed to a list of counseling resources when they chose to end their participation at any point. See Appendix B.

Sample Size and Power

A priori power analysis indicated that to achieve a power of .80 with $p < .05$, an anticipated medium effect size of .15, and two predictor variables, a sample size of 67 would be required (Soper, 2013). After accounting for duplicates and missing data over 20%, the total sample size for this dissertation study was 529, which is well over the minimal amounts required.

Measures

Demographic questionnaire. A demographic questionnaire was provided to gather participants' information regarding age, gender, marital status, sexual orientation, race/ethnicity, socio-economic status, level of college education, and disability/ability. Since psychological symptoms have been strongly linked to challenges faced by various minorities, the background information will provide the potential to analyze any differences in the results. See Appendix C.

Trauma Exposure. Participants were asked if they have experienced trauma as per the parameters mentioned in Criterion A of the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association, 2013) and they were asked to respond to childhood trauma and adult trauma separately.

Five facet mindfulness questionnaire (FFMQ). The FFMQ (Baer, 2003; Baer, Smith, Hopkins, Krietemeyer and Toney, 2006) consists of 39 items that measure five mindfulness facets (i.e., observing, describing, acting with awareness, nonjudging, nonreactivity). This measure was created by integrating items from Mindful Attention Awareness Scale (MAAS; Brown and Ryan 2003), Freiburg Mindfulness Inventory (FMI; Buchheld, Grossman, & Walach, 2001), Kentucky Inventory of Mindfulness Skills (KIMS; Baer et al. 2004), Cognitive and Affective Mindfulness Scale (CAMS; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Hayes and Feldman 2004), and the Southampton Mindfulness Questionnaire (SMQ; Chadwick, Hember, Mead, Lilley, & Dagnan, 2007). The FFMQ assesses five aspects of mindfulness: observing, describing, acting with awareness, non-judgment of inner experience, and non-reactivity to inner experience (Baer, et al.2006). The measure has been found to have good validity and

reliability in general and the five factors have exhibited average to good internal consistency (Bohlmeijer, ten Klooster, Fledderus, Veehof, & Baer, 2011). The overall validity of the measure was found to be good among a sample of meditators, but the observing factor was not found to be significant in a non-meditating sample (Baer, et al., 2008).

The observing subscale has eight items which measure participants' awareness of their own thoughts, feelings, and physical sensations. It includes items such as: "I pay attention to sensations, such as the wind in my hair or sun on my face." The describing subscale has eight items which measure the participants' range of ability in verbally describing their emotional experiences. An example of an item for this subscale would be, "I'm good at finding the words to describe my feelings." The acting with awareness subscale has eight items which asks participants about their tendency to complete tasks automatically without awareness. An example of such an item would be "When I do things, my mind wanders off and I'm easily distracted." All items on this subscale are reverse-scored. The non-judging subscale, also reverse scored, has eight items that measures the extent to which participants judge their own internal experiences. A sample item for this subscale is, "I make judgments about whether my thoughts are good or bad." The non-reactivity subscale has seven items which measure participants' ability to refrain from overreacting emotionally and includes items such as "I perceive my feelings and emotions without getting lost in them." Participants indicate how true each item is for them on a five-point Likert scale (1 = never or very rarely true, 5 = very often or always true).

Several studies have examined the psychometric properties of the FFMQ in English and in other languages (e.g., Baer et al., 2006; Lilja, et al., 2011; Bohmeijer, Klooster, Fledderus, Veehof, & Baer, 2011; Christopher, Neuser, Michael, & Baitmangalkar, 2012). Baer et al. (2006) conducted a confirmatory factor analysis on the FFMQ in a college student sample and determined that a hierarchical model with five factors as indicators of an overall mindfulness factor provided a good fit to the data. However, the observing factor was found to be non-significant as a contributor to the overall mindfulness factor. An alternative four factor hierarchical model was evaluated with describing, acting with awareness, non-judging, and non-reactivity as factors of an overall mindfulness construct. Overall the four factor hierarchical model provided a better fit to the data than the five-factor hierarchical model.

In examining the relationship between mindfulness and other constructs, the same study also found that observing was correlated with openness; describing was strongly correlated with emotional intelligence and alexithymia; non-reactivity was most correlated with self-compassion; and acting with awareness was correlated with dissociation and absent-mindedness; and non-judging had the highest correlations of all five facets with psychological symptoms, neuroticism, thought suppression, difficulties in emotion regulation, and experiential avoidance. Observing also correlated with dissociation, absent-mindedness, mental health problems; and thought suppression, which was not expected by the authors. However the results for the correlation between observing and the above mentioned variables were non-significant in a meditating sample. These results were consistently similar in another study by Baer et al. (2008), which found that both a hierarchal model that examined the five factors as a unified

construct of overall mindfulness was a good fit as was a non-hierarchical five factor model. The same study also found that age was moderately correlated with the acting with awareness factor and education was correlated with all the factors to a certain degree. The authors found that meditators scored higher on the FFMQ than the non-meditating samples. When meditators were compared to demographically similar non-meditators, all factors except the acting with awareness factor were significant.

Christopher, Neuser, Michael, & Baitmangalkar (2012), replicated the original validation study by Baer, et al. (2006) and performed the confirmatory factor analysis of the FFMQ to examine the factor structure in a mixed meditating and a non-meditating sample and found that the measure had acceptable internal consistency for each of the five factors (observing $\alpha = 00.84$, describing $\alpha = 00.91$, act with awareness $\alpha = 00.90$, nonjudgment $\alpha = 00.93$, nonreactivity $\alpha = 00.86$, total FFMQ $\alpha = 00.93$). They also found that after controlling for age and education, three of the following factors of mindfulness predicted depressive symptoms: (Act with Awareness, ($\beta_0 = 0.28$), Nonjudgment, ($\beta_0 = 0.27$), and Nonreactivity, ($\beta_0 = 0.22$). The same factors were also found to be predictive of satisfaction with life. Further, the relationship between observing and depressive symptoms was in the opposite direction of the hypothesis ($\beta_0 = 0.10$).

The Dutch version of the FFMQ was assessed for construct validity using confirmatory factor analyses and by examining the relationship between FFMQ and psychological symptoms such as depression and anxiety, experiential avoidance, and personality factors (Bohmeijer, ten Klooster, Fledderus, Veehof, & Baer, 2011). This study found that all facets of the FFMQ had adequate internal consistency with alpha coefficients ranging from .73 for non-reactivity to .91 for describing. The facets exhibited

moderate inter-correlation, indicating that while they are related, they are sufficiently distinct factors of mindfulness.

Connor-Davidson Resilience Scale (CD-RISC). The CD-RISC (Connor & Davidson, 2003) is a 25-item self-report measure of resilience. All the items are rated on a five-point Likert scale ranging from zero to four. The participants are asked to rate the items based on their experiences in the past month. The total score range is 0-100. Higher scores indicate greater resilience. This scale consists of five factors (Connor & Davidson, 2003) and the authors describe each factor: Factor I (e.g., “I work to attain my goals no matter what roadblocks I encounter along the way”) includes personal competence, high standards, and tenacity. Factor II (e.g., “In dealing with life’s problems, sometimes you have to act on a hunch without knowing why”) includes trust in one’s instincts, tolerance of negative affect, and strengthening effects of stress. Factor III (e.g., “I am able to adapt when changes occur”) includes positive acceptance of change, and secure relationships. Factor IV (e.g., “feel in control of my life”) includes control. Factor V (e.g., “Good or bad, I believe that most things happen for a reason”) includes spiritual influences.

The scale has been used widely with a variety of populations. Ahern, Kiehl, Sole, & Byers (2006) report that the measure has been proven to have good internal consistency with Cronbach’s alpha of .89 and good test-retest reliability. The authors also reported that construct validity was good. The measure has good convergent validity with measures of perceived stress, hardiness, stress vulnerability, social support, and disability (Connor & Davidson, 2003).

Trauma symptom checklist (TSC-40). The TSC-40 is a research measure that evaluates trauma symptoms in adults with childhood and adult trauma histories (Briere &

Runtz, 1989). It consists of 40 items, hence the name, that are spread over six different subscales: Dissociation (items such as experiencing flashbacks), Anxiety (items such as dizziness), Depression (items such as insomnia) and Sexual Abuse Trauma Index (SATI; items such as nightmares), Sexual Problems (items such as low sex drive), and Sleep Disturbances (items such as restless sleep). The TSC-40 asks participants to rate on a scale from zero (never) to three (often) how often they have experienced each item on a list in the past two months.

The TSC-40 is a revision of the earlier TSC-33 (Briere & Runtz, 1989) following an addition of seven items and the creation of the last two subscales mentioned above. The TSC-40 and the TSC-33 both have predictive validity with alpha to a large variety of traumatic experiences (e.g. Bagley, 1991, Binder, McNiel, Goldstone, 1996, Briere, 1989, Brier, Evans, Runtz, Wall, 1988; Dutton & Painter, 1993). The TSC-40 was administered a nationally stratified sample of working women and the analyses revealed an average subscale alpha of .69 and .90 of the total measure (Elliot & Briere, 1992). Thirty-six of the items in the TSC-40 discriminated between CSA victims and non-abused participants in the non-clinical sample (Elliott & Briere, 1991). There is also a high correlation between the scores on the TSC-33 and TSC-40 ($r = .99$; Elliott & Briere, 1991) and the items repeatedly discriminate between survivors of childhood sexual abuse and non-survivors as revealed by self-report of participants and by therapist reports (Whiffen, Benazon & Bradshaw, 1997; Elliott & Briere, 1991; Elliott & Briere, 1992). The Sexual Abuse Trauma Index (gt & Briere, 1991) and Dissociation subscales (Elliott & Briere, 1992) were most predictive of sexual abuse history (Elliott & Briere, 1991). In clinical and non-clinical samples, some abuse characteristics correlated significantly with total

and subscale scores, and with the duration and frequency with which the abuse occurred (Elliott & Briere, 1991). Convergent validity of the TSC-40 has been established in its relationship to other measures of childhood sexual abuse and trauma (Brandyberry & MacNair-Semands, 1998; Gold & Cardena, 1998). In a review of previously unpublished studies that utilized the TCS-40 with college students, community volunteers, and clinical samples, Elliot and Briere (1991) found that the scores were consistently high in both clinical and non-clinical samples with physical and sexual abuse.

The Center for Epidemiological Studies depression scale (CES-D). The CES-D (Radloff, 1977) was developed as a measure of symptoms of depression in community populations. The scale comprises of 20 items taken from the following measures: the Zung Self-Rating Depression Scale (Zung SDS), the Beck Depression Inventory (BDI), the Raskin Scale, a depression checklist by E. A. Gardner, and the Minnesota Multiphasic Personality Inventory Depression Scale (MMPI-D). Subjects are asked to rate each item on a Likert scale from 0 (rarely or none of the time) to 3 (most or all of the time) as a response to “how often have you felt this way during the past week”. One example of the items is: “I thought my life had been a failure.” Four of the items are reverse scored to control response bias. An example is: “I felt hopeful about the future.” The scores on this measure range from 0 to 60 and higher scores indicate greater severity in depressive symptoms. Internal consistency was found to be high across a variety of populations, generally around 0.85 in community samples and 0.90 in psychiatric samples (e.g., Boyd, Weismann, Thomspon, & Myers, 1982; Breslau, 1985; Husaini, Neff, & Harrington, 1980; Roberts, 1980; Myers & Weismann, 1980).

The studies also found that the split-half reliability is high, ranging from 0.77 to 0.92, with moderate correlations in Test-retest reliability studies ranging over 2–8 weeks ($r = 0.51\text{--}0.67$). Studies of ethnically diverse populations showed no differences in measures of internal consistency reliability (Roberts 1980). In samples of outpatients with depression, alcoholism, drug addiction, or schizophrenia, correlation coefficients (r) between CES-D scores and Symptom Checklist –90 (SCL-90). Depression subscale scores were high, ranging from 0.73 to 0.89. Correlations with the Rating Scale for Depression (Ham-D) scores were variable and ranged from 0.49 for patients with acute depression to 0.85 for patients with schizophrenia. Correlations with the Raskin Scale were also variable, ranging from 0.28 for patients with acute depression to 0.79 for patients with schizophrenia (Weissman et al. 1977). In a sample of 406 psychiatric outpatients, CES-D scores were higher in currently depressed patients than in other patient groups (Weissman et al. 1977). Mean CES-D scores for various patient groups were 38.10 for acute depression ($n = 148$ and $SD = 9.01$), 14.85 for depression in remission ($n = 87$ and $SD = 10.06$), 22.97 for alcohol dependence ($n = 61$ and $SD = 13.58$), 17.05 for drug dependence ($n = 60$ and $SD = 10.69$), and 12.98 for schizophrenia ($n = 50$ and $SD = 12.94$). However, the measure's ability to differentiate between depression as a primary diagnosis and depression as a co-morbid disorder was not adequate (Weismann, 1977). While the scale is still considered a strong measure of depressive symptoms, its use as a measure to assess clinical depression in a community sample in the absence of a follow up interview is not recommended (Roberts & Vernon, 1983; Fechner-Bates et al., 1994).

Data Analysis

All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics and distributional plots were generated to assess for missing data and outliers in the sample as well as other factors such as normality, multicollinearity, and homoscedasticity. Correlational analyses were performed to determine the relationships between the predictor variables and the dependent variables. In order to assess how well resilience mindfulness predict depression and trauma, two separate hierarchical regression analyses were completed with depressive symptoms as the outcome variable in one and trauma symptoms as the outcome variable in the other. In both analyses, stepwise regression was used as method of entry of predictor variables. Further, to test the mediational effects of mindfulness on the relationship between resilience and trauma symptoms, the Preacher and Hayes (2008) bootstrapping approach was used by installing the macro PROCESS in SPSS. A similar analysis was also performed with depressive symptoms as the dependent variable. Bootstrapping is a non-parametric approach used to estimate the significance of indirect effects of mediators (Preacher, Rucker, & Hayes, 2007). The authors describe this method as involving many mini-samples taken from the original data set to generate approximation of the distribution of the original sample.

Results

The total sample comprised of 529 participants with 180 participants identifying as male, 348 participants identifying as female, and 1 person identifying as transgender. The mean age of participants was 23.61 (Standard Deviation (SD) = 5.450). For details on participants' demographic characteristics, see Table 1.

Table 1. *Participants Characteristics*

Measures	Frequency	Percent Valid	Percent	Cumulative Percent
Gender				
Male	180	34.0	34.0	34.0
Female	348	65.8	65.8	99.8
Transgender	1	.2	.2	100.0
Total	529	100.0	100.0	
Race/Ethnicity				
Asia/Pacific Islander	66	12.5	12.6	12.6
Black/African American	226	42.7	43.0	55.6
Caucasian/White/ European American	140	26.5	26.7	82.3
South Asian	14	2.6	2.7	85.0
Hispanic/Latino/Latina	33	6.2	6.3	91.2
Middle Eastern	6	1.1	1.1	92.4
Multiracial/ethnic	22	4.2	4.2	96.6
Native American	1	.2	.2	96.8
Other	17	3.2	3.2	100.0
Total	525	99.2	100.0	
Missing	4	.8		
Total	529	100.0		
Religious Affiliation				
Agnostic	43	8.1	8.2	8.2
Atheist	24	4.5	4.6	12.8
Buddhist/Taoist	8	1.5	1.5	14.4
Christian/Catholic	87	16.4	16.7	31.0
Christian/Protestant	73	13.8	14.0	45.0
Christian/Other	174	32.9	33.3	78.4
Hindu	10	1.9	1.9	80.3
Jewish	3	.6	.6	80.8
Muslim/Islam	38	7.2	7.3	88.1
Spiritual, but not religious	30	5.7	5.7	93.9
Wiccan/Pagan/Neo-pagan	1	.2	.2	94.1
Other	31	5.9	5.9	100.0
Total	522	98.7	100.0	
Missing	7	1.3		
Total	529	100.0		

Table 1. *Participants Characteristics* contd.

Measures	Frequency	Percent Valid	Percent	Cumulative Percent
Sexual Orientation				
Lesbian/Gay	17	3.2	3.2	3.2
Straight/Heterosexual	494	93.4	93.9	97.1
Bisexual	9	1.7	1.7	98.9

Pan-sexual/omni-sexual	1	.2	.2	99.0
Other	5	.9	1.0	100.0
Total	526	99.4	100.0	
Missing	3	.6		
Total	529	100.0		

Marital Status

Single	313	59.2	59.4	59.4
In a monogamous dating relationship	147	27.8	27.9	87.3
Married/Partnered	53	10.0	10.1	97.3
Divorced	10	1.9	1.9	99.2
Widowed	1	.2	.2	99.4
In a non-monogamous dating relationship	3	.6	.6	100.0
Total	527	99.6	100.0	
Missing	2	.4		
Total	529	100.0		

Disability Status

Yes	11	2.1	2.1	2.1
No	517	97.7	97.9	100.0
Total	528	99.8	100.0	
Missing	1	.2		
Total	529			
				100.0

Trauma Exposure

The data was then split based on trauma exposure so that the data was analyzed separately for the group that endorsed trauma exposure and the group that did not endorse it. A total of 201 participants indicated that they did not experience any trauma. A total of 328 participants indicated they had experienced trauma. For descriptive statistics for the entire sample and also split by trauma exposure endorsement, see Table 2 and 3.

Table 2. *Descriptive Statistics*

	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Variance</i>	<i>Skewness</i>	
<i>Kurtosis</i>						
Trauma	427	27.8080	19.32683	373.526	1.070	1.426

Depression	488	13.95	9.995	99.907	1.029	.780
Resilience	467	69.35	17.236	297.095	-.849	1.674
Mindfulness	417	126.19	15.531	241.224	.396	.228
Valid N (listwise)	304					

Table 3. *Descriptive Statistics by Trauma Exposure Endorsement*

Variable	Trauma Exposure	Mean	Std. Deviation	N
Trauma Sym. 116 188 304	No Trauma	25.3448	18.41885	
	Trauma Exposed	30.2021	20.32231	
	Total	28.3487	19.72894	
Depression 116 188 304	No Trauma	14.57	9.251	
	Trauma Exposed	14.55	10.814	
	Total	14.56	10.230	
Resilience 116 188 304	No Trauma	68.00	17.263	
	Trauma Exposed	71.77	15.555	
	Total	70.33	16.303	
Mindfulness 116 188 304	No Trauma	124.45	12.945	
	Trauma Exposed	128.01	16.857	
	Total	126.65	15.556	

Using Multivariate Analysis of Variance (MANOVA), the differences in trauma exposed group and non-trauma exposed group were examined with trauma exposure as an independent variable and depressive symptoms, trauma symptoms, mindfulness, and resilience as dependent variables. Wilk's lambda was significant for trauma exposure on the dependent variables, $\lambda = .951$, $F(4,299) = 3.866$, $p = .004$. For details on other tests of significance, see Table 4. Significance tests for between-subject effects indicate that only

trauma symptoms varied significantly between trauma exposed group and the group with no trauma with $F(1, 299) = 4.397, p = .037$. The differences in depressive symptoms, mindfulness, and resilience between the two groups were not significant. See Table 5 for details.

Table 4. *Significant Multivariate Effects*

	Value	F	Hypothesis df	Error df	Sig.
Pillai's Trace	.049	3.866	4.000	299.000	.004
Wilks' Lambda	.951	3.866	4.000	299.000	.004
Hotelling's Trace	.052	3.866	4.000	299.000	.004
Roy's Largest Root	.052	3.866	4.000	299.000	.004

Table 5. *Significant Tests of Between-Subject Effects*

Variable	Type III Sum of Sq	df	Mean Sq.	F	Sig.
Trauma	1692.513	1	1692.513	4.397	.037
Depression	.032	1	.032	.000	.986
Resilience	1017.403	1	1017.403	3.864	.050
Mindfulness	910.371	1	910.371	3.797	.052

Correlations

The Pearson's product-moment correlations indicate the relationships between the four variables. In the no trauma sample, trauma and depression share a strong positive relationship, $r(156) = .565, p < .01$. A moderate negative relationship exists between trauma and mindfulness, $r(132) = -.379, p < .01$. Depression and mindfulness share a strong negative relationship $r(149) = -.495, p < .01$. Depression and resilience share a moderate negative relationship $r(167) = -.360, p < .01$. Mindfulness and resilience share a strong positive relationship, $r(143) = .502, p < .01$. See table 6.

In the sample with trauma exposure, a strong positive relationship exists between trauma and depression, $r(246) = .650, p < .01$. A weak negative relationship exists between trauma and resilience, $r(240) = -.227, p < .01$. A strong negative relationship

exists between trauma and mindfulness, $r(217) = -.447, p < .01$. Depression and resilience share a strong negative relationship, $r(271) = -.518, p < .01$ and resilience and mindfulness share a strong positive relationship, $r(233) = .543, p < .01$. A strong negative relationship exists between depression and mindfulness, $r(241) = -.578, p < .01$. See table 7.

Table 6. *Pearson's Correlations for No Trauma Group*

	1	2	3	4
Trauma	-			
Depression	.565	-		
Resilience	-.104	-.360	-	
Mindfulness	-.379	-.495	.502	-

Table 7. *Pearson's Correlations for Trauma Exposed Group*

	1	2	3	4
Trauma	-			
Depression	.650	-		
Resilience	-.227	-.518	-	
Mindfulness	-.447	-.578	.543	-

Regression Analyses

Trauma Symptoms as Dependent Variable. First, the data analysis for multiple regression was performed with trauma symptoms measured by TSC40 as the dependent variable and resilience, measured by CD-RISC, and mindfulness, measured by FFMQ, as independent variables. The entry method used for the independent variables was stepwise.

For the sample with no trauma exposure, the adjusted R square indicates that the variance in trauma symptoms explained by mindfulness was 13.7%, $F(1, 130) = 21.756$, $p = 0.000$. The β value was $-.486$ ($t = -4.664$, $p = .000$) for the model. Resilience was excluded from the regression model because it did not significantly explain the variance in trauma symptoms with a β value of $.114$, $p > .05$.

For the sample with trauma exposure, the adjusted R square indicates that the variance explained by mindfulness was 19.6%, $F(1, 215) = 53.739$, $p = 0.000$. The β coefficient was significant at $-.543$ ($t = -7.331$, $p = .000$). Resilience excluded from the model because it did not significantly explain the variance in trauma symptoms and the β coefficient was at $.023$, $p > .05$. See tables 8 and 9 for the regression analyses with trauma symptoms as outcome.

Table 8. *Regression Analyses with Trauma Symptoms as Outcome in the No Trauma Group*

Variable	β	p	R^2	F	p
Step 1			.137	21.756	.000
Mindfulness	-.486	.000			

Table 9. *Regression Analyses with Trauma Symptoms as Outcome in the Trauma Exposed Group*

Variable	β	p	R^2	F	p
Step 1			.196	53.739	.000
Mindfulness	-.543	.000			

Depressive Symptoms as a Dependent Variable. In the multiple regression analysis for the group with no trauma exposure, the model entered mindfulness first and the variance explained by this variable was 24%, $F(1, 141) = 45.741$, $p = 0.000$. The β coefficient was

significant at $-.336$ ($t = -6.763$, $p = .000$). Resilience was excluded from the model because the β coefficient was not significant at $-.149$, $p > .05$.

In the group with trauma exposure, the regression analysis revealed that the variance explained by mindfulness was 33.1%, $F(1, 231) = 115.720$, $p = 0.000$ and the total variance increased to 38.8%, $F(2, 230) = 74.399$, $p = 0.000$ when resilience was entered into the model. The β coefficients were significant at $-.265$ ($t = -6.876$, $p = 0.000$) and $-.185$ ($t = -4.730$, $p = 0.000$) for the full model. See tables 10 and 11 for the regression analyses with depressive symptoms as outcome.

Table 10. *Regression Analyses with Depressive Symptoms as outcome in the No Trauma Group*

Variable	β	p	R ²	F	p
Step 1			.240	45.741	.000
Mindfulness	-.336	.000			

Table 11. *Regression Analyses with Depressive Symptoms as outcome in the No Trauma Group*

Variable	β	p	R ²	F	p
Step 1			.334	115.720	.000
Mindfulness	-.365	.000			
Step 2			.393	74.399	.000
Mindfulness	-.265	.000			
Resilience	-.185	.000			

Mediation Analyses

The PROCESS SPSS macro (Hayes, 2013) was used to test the unique direct and indirect associations posited in the hypothesized mediation patterns linking resilience and trauma symptoms and depressive symptoms through the mediating role mindfulness.

Traditionally, Baron and Kenny's (1986) requirement of a significant relationship

between the predictor and outcome to proceed with mediational analysis has been the norm. However, several authors in recent years (e.g., Hayes, 2009; MacKinnon et al., 2000; Shrout & Bolger, 2002; Zhao, Lynch, & Chen, 2010; & Rucker, Preacher, Tormala, & Petty, 2011), recommend abandoning this norm and to consider exploration of mediation that is guided by theory. Rucker, Preacher, Tormala, and Petty (2011) recommend that in cases where there is a theoretical substantiation to predict the presence of an indirect effect, exploring indirect effects regardless of significant direct effect needs to be explored, as it is in this study. Furthering support for this approach, Zhao, Lynch, and Chen (2010) suggested that the direct effect between predictor and outcome variable is not relevant to establishing mediation and recommend the term ‘mediation only effect.’ Other statisticians such as Hayes (2009) suggested that minimizing the number of tests one must conduct to support a claim can increase the power of one’s study and recommend conducting mediation analysis even when there is no significant relationship between predictor and outcome variable because simulation studies suggest that the Baron and Kenny causal steps approach to mediation has the lowest power (Fritz & MacKinnon, 2007; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

With the support of growing evidence for this approach, four mediation models were tested: one with trauma symptoms as the outcome variable in a non-trauma exposed sample, one with trauma symptoms as the outcome variable in a trauma exposed sample, one with depressive symptoms as the outcome variable in a non-trauma exposed sample and one with depressive symptoms as the outcome variable in a trauma exposed sample. 5,000-sample bootstrap procedure was used to estimate bias-corrected 95% confidence intervals (CIs) to test the significance of indirect links; if CIs do not contain 0, indirect

links are significant, indicating significant mediation (Mallinckrodt, Abraham, Wei, & Russell, 2006).

In the sample with no trauma exposure, there was a significant indirect effect of resilience on trauma symptoms through mindfulness, $b = -.2497$, BCa CI $(-.3955, -.1378)$. This represents a relatively large effect, $K^2 = .2112$, 95% BCa $(.1246, .3192)$. Preacher and Kelley (2011) recommended considering kappa-squared values as follows: .01 is a small effect, .09 is a medium effect, and .25 as a large effect. In the sample with trauma exposure, there was a significant indirect effect of resilience on trauma symptoms through mindfulness, $b = -.3035$, BCa CI $(-.4285, -.1961)$. This represents a large effect, $K^2 = .2171$, 95% BCa $(.1458, .2895)$. See figures one and two.

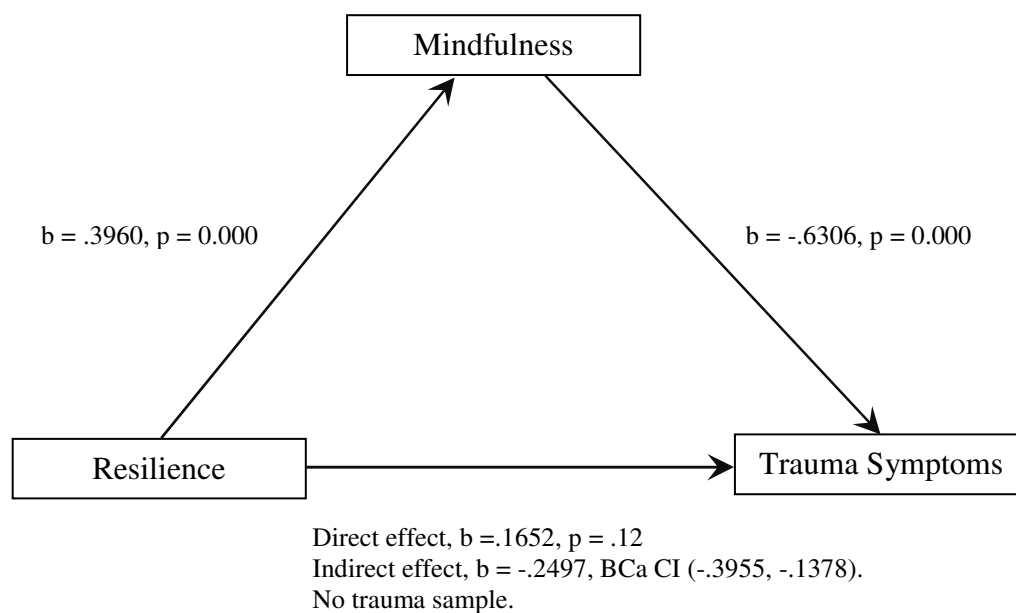


Figure 1. Mediation analysis with trauma symptoms as outcome in a no trauma sample.

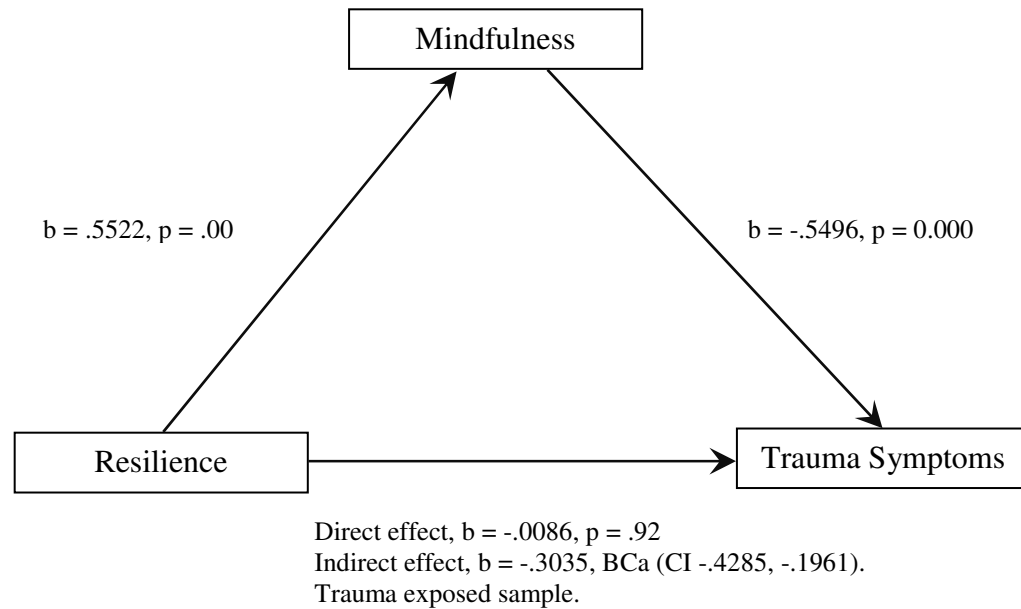


Figure 2. Mediation analysis with trauma symptoms as outcome in a trauma exposed sample.

In the group with no trauma exposure, there was a significant indirect effect of resilience on depressive symptoms through mindfulness, $b = -.0991$, BCa CI $(-.1710, -.0468)$. This represents a large effect, $K^2 = .1786$, 95% BCa $(.0918, .2778)$. In the sample with trauma exposure, there was a significant indirect effect of resilience on depressive symptoms through mindfulness, $b = -.1526$, BCa CI $(-.2125, -.1020)$. This represents a large effect, $K^2 = .2276$, 95% BCa $(.1578, .2958)$. See figures three and four.

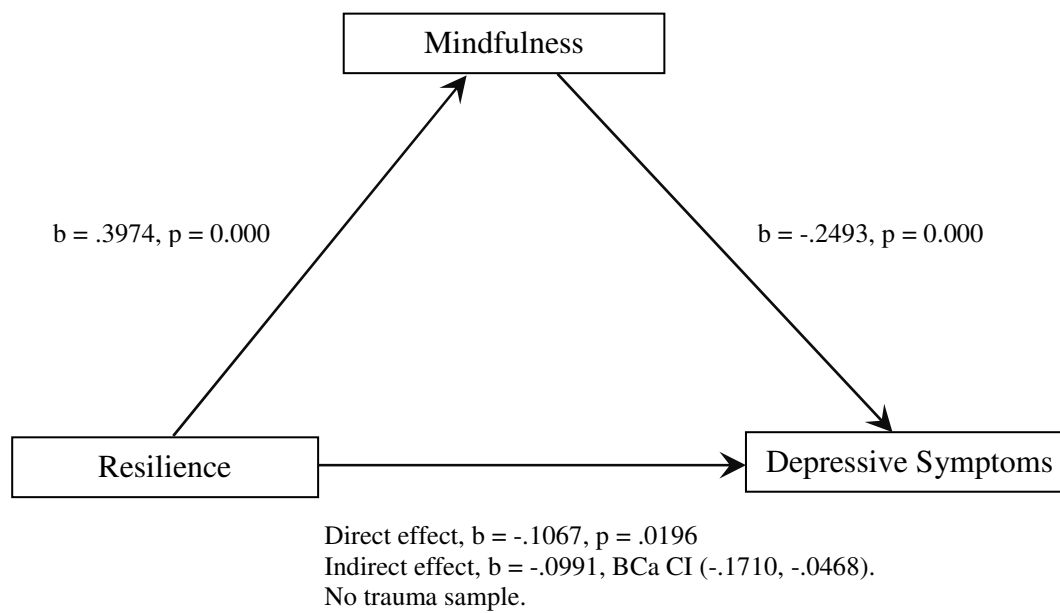


Figure 3. Mediation analysis with depressive symptoms as outcome in a no trauma sample.

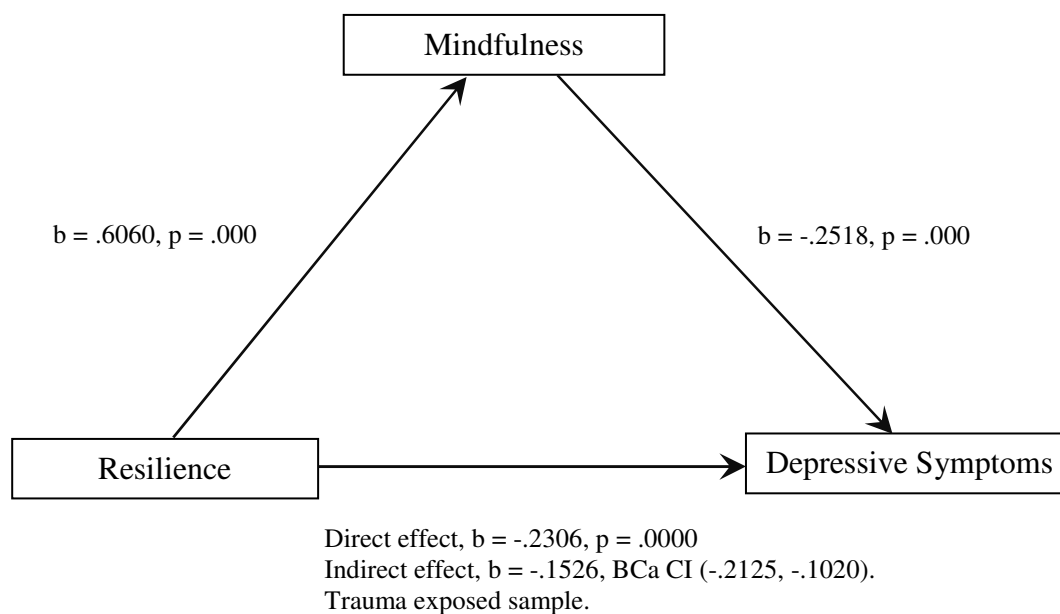


Figure 4. Mediation analysis with depressive symptoms as outcome in a trauma exposed sample.

Discussion

The present study explores the relationship that resilience and trait mindfulness play in trauma symptoms and depressive symptoms in trauma exposed participants as well as participants who endorsed no trauma exposure. It is important to note that a significant number of participants in this study were women. While the reason for this difference is difficult to be certain about, it is likely that the topic of this study might have been more attractive to women than to men. Further, for an undergraduate sample, the average age of participants was on the higher side, therefore leading one to infer that this study is likely to have been less attractive or comfortable for younger students to participate in and is likely to have been more comfortable for students with greater life experience.

As per the MANOVA results, the trauma exposed sample and the sample with no trauma exposure varied significantly only on trauma symptoms, but not mindfulness, resilience, or depression. The sample that endorsed trauma exposure had higher means on trauma symptoms, mindfulness, and resilience compared to the group that did not endorse trauma exposure. One possibility for this difference is that the acknowledgement or awareness of one's trauma history is likely to bolster resilience and coping skills such as mindfulness.

Surprisingly and contrary to previous research (e.g., Olatunji, Armstrong, Fan, & Zhao, 2012; Philippe, Laventure, Beaulieu-Pelletier, Serge Lecours, & Lekes, 2011; Southwick & Charney, 2012), resilience did not significantly predict trauma symptoms in both the groups with and without trauma exposure. This disproves the hypothesis that resilience predicts trauma symptoms. It should be noted that correlational analyses

revealed that the relationship between trauma and resilience in the no trauma group was not significant and was a significant, but weak relationship in the group with trauma exposure. It is important to consider that both the CD-RISC and TSC40 have strong reliability and validity. It is likely that resilience was not sufficient to significantly vary trauma symptomology and perhaps more coping skills such as mindfulness, as proved in this case, for trauma symptomology to decrease. Further, one might need to consider that the TSC40 has subscales and while resilience did not significantly predict trauma symptoms, we do not know of its relevance to the subscales of TSC40.

Further many psychosocial factors underpin vulnerability to trauma symptoms. They include the nature of the trauma; the age at traumatic event; demographic factors; social support; and pre-existing mental health problems. All of these factors are related to greater risk for lifetime PTSD, with prevalence being higher in women (Stuber, Resnick, & Galea, 2006). Therefore, exploring other psychosocial factors that contribute to trauma symptoms in this sample can help us understand why a trait such as resilience did not seem to significantly contribute to trauma symptom reduction.

Consistent with previous research and as hypothesized, this study confirmed mindfulness predicts trauma symptoms and depressive symptoms. In both the samples, mindfulness and trauma symptoms shared a negative relationship, indicating that as mindfulness increased, trauma symptoms decreased. As described previously, mindfulness promotes physical and psychological well-being and this study helps substantiate this claim once again.

In the regression model with depressive symptoms as an outcome variable, mindfulness and resilience were both strong predictors in the group with trauma

exposure. As mindfulness and resilience increased, depressive symptoms decreased, consistent with previous research. However, in the group with no trauma exposure, only mindfulness significantly predicted depressive symptoms, but not resilience.

Interestingly, the mediation analysis using the bootstrapping approach indicated that resilience plays a small, but significant role in reducing depressive symptoms. It is likely that the mechanisms involved in the bootstrapping process played a role in the difference in findings. So, while resilience seems to play a role in reducing depressive symptoms in the trauma exposed population, it does not seem to significantly impact trauma symptoms.

Previous research in the area of trauma indicates that resilience and several coping skills play a significant role in reducing trauma symptoms (e.g., Manning, 2013; Olatunji, Armstrong, Fan, & Zhao, 2012; Philippe, Laventure, Beaulieu-Pelletier, Serge Lecours, & Leke, 2011; Smith et al., 2011; Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012). Therefore, it is important to consider that while resilience plays a role, it may not be sufficient in reducing trauma symptomology. Exploring several coping skills and personality traits such as mindfulness can help us understand methods of reducing trauma symptoms. What this study does suggest is the importance of trait mindfulness and the potential that mindfulness training has in predicting psychological symptoms, especially trauma symptoms and depressive symptoms.

The results of the mediation analysis indicate mindfulness mediates the relationship between resilience and trauma symptoms as well as the relationship between resilience and depressive symptoms. In all of the mediational analyses, the effect of mindfulness as a mediator was large. Mindfulness is a multifaceted trait. While aspects

such as awareness and observation help us stay in the present moment combatting the cluster trauma symptoms such as flashbacks and dissociation; non-judgment can help us reduce the cluster of trauma symptoms such as negative thinking and self-critical thoughts. As discussed earlier, mindfulness as a trait as well as a skill can help improve a variety of psychological symptoms.

Implications for Practitioners

It is imperative for practitioners to explore various factors, both traits and skills that can be learned, involved in the process of trauma recovery and treatment of mood disorders. As researchers acknowledge (Ballenger et al., 2004), it is only a minority of trauma survivors who experience higher severity of symptoms that are also long-lasting. This information speaks to inherent resilience and coping skills that trauma survivors possess. Attending to our clients' adaptive coping mechanisms such as trait mindfulness and helping them develop those further can play an important role in bolstering their resilience and improving their psychological well-being. A key aspect of helping our clients is for practitioners themselves to be able to develop mindfulness skills and receive training in the application of mindfulness in psychotherapy. Further, attending to how clients use mindfulness in their daily life; in prayer, meditation, or spirituality for example; is crucial in helping them identify and develop their coping resources. Counseling and psychology faculty who are working to train future practitioners could incorporate formal training in mindfulness as part of their curriculum as well as their clinical training and focus on the aspects mentioned above.

Further, as the results of this study indicate, it is important to consider the multitude of factors that could play a role in the relationship between trauma and

resilience. This study is one of the first research investigations to prove the mediational role played by mindfulness in the relationship between depression, trauma, and resilience. Therefore exploring mindfulness or mindfulness-related practices that could help build clients' resilience is crucial in counseling. As practitioners, we need to explore various bolstering mechanisms involved in resilience such as religious or spiritual practices, family and social support, coping skills, access to resources and other such factors. The linear association of the relationship between trauma and resilience does not do justice to the multivariate associations of resilience and trauma exposure and multidimensional aspects of the trauma construct.

While trait mindfulness and resilience are areas that promote a strengths-based and wellness-oriented approach to therapy for all clients, it might be an approach that is especially culturally congruent for clients from certain ethnicities and races. While the present study did not explore the influence of culture on mindfulness, considering the eastern origins of mindfulness practices, it is worthwhile to explore cultural influences on attitudes towards mindfulness in both therapy and research. Additionally, attending to how clients use mindfulness in their daily life; in prayer, meditation, or spirituality for example; is crucial in helping them identify and develop their coping resources. Further, counseling and psychology faculty who are working to train future practitioners could incorporate formal training in mindfulness as part of their curriculum as well as their clinical training. As the evidence for the importance of mindfulness increases, it is imperative that future clinicians are well-prepared and develop competence in this area. Trait mindfulness is useful in trauma therapy as well as mood disorders such as because of the emphasis on focusing on the present moment and learning to focus less on the past

and the future. Additionally, mindfulness can help change avoidance behaviors and help clients gain emotional insight. While trauma therapies such as prolonged exposure and Skill Training in Affect and Interpersonal Regulation (STAIR; Levitt & Cloitre; 2005) are frequently preceded by coping skills training, developing clients' mindfulness further could function as an excellent supportive training to these models.

Further, clients who are especially resistant to traditional cognitive behavioral therapies might benefit from a mindfulness-based approach to treatment (Orsillo & Batten, 2005). Thompson, Arnkoff, and Glass (2011) recommend a mindfulness and acceptance based approach to prevention of the development of PTSD in populations with greater risk for exposure to traumatic events. They extend the usefulness of these skills to prevention of PTSD in individuals who have recently been exposed to a traumatic event. As we become more and more focused on prevention-based approaches, we will find that mindfulness practice as well as other resilience resources can play pivotal roles in our efforts.

Limitations and Future Research

As with any research, this study has several limitations. First, the study relied exclusively on self-report measures that required persons to have access to a computer and the internet. Further, these individuals were all part of the research pool and were required to complete one of two research alternatives to get credit for courses. Therefore, the motivation to participate stemmed from the desire to get credit for courses and is likely to influence who chose this particular research alternative. Additionally, it is imperative to reiterate that this study measured trauma exposure and trauma symptoms, but did not assess for and determine if participants met criteria for PTSD. The same study

on individuals with PTSD diagnosis might yield different results. Further, while the participants were assessed for trauma exposure, the time of occurrence of the traumatic event and the treatment that they may have received was not assessed. Therefore it is challenging to determine the extent to which mindfulness truly played a role in improving their trauma symptoms without knowledge of other interventions that they might have had access to.

Another word of caution is about the challenge of measuring a trait such as mindfulness. It is a construct that has received much attention, but no one firm definition has been arrived upon so far. Further, this study was based on a self-report measure for trait mindfulness and not a mindfulness-based intervention. A study with pre and post-test measures with a mindfulness-based intervention might yield different results. Additionally, a linear association of the relationship between trauma and resilience does many not be sufficient to examine the multivariate associations of resilience and trauma exposure and multidimensional aspects of the trauma construct. Exploring this aspect in the future might help explain the findings of this study.

The current findings warrant further investigation and cross validation in other samples. While the participants came from diverse backgrounds, the proportion of men and women was unequal. It is possible that men and women may experience and report trauma effects differently. Apart from the status of trauma exposure, group differences based on demographic data in the current study were not explored, an aspect that could be included in future studies.

Future research based on different methodologies should continue to endeavor to understand the influence of mindfulness on psychological symptoms. It would be helpful

exposure other aspects of resilience in conjunction with mindfulness to increase our understanding of bolstering mechanisms in resilience. Additionally, examining the influence of transgenerational trauma and the role that resiliency resources such as mindfulness play is crucial to build population-specific treatment modalities.

Additionally, to develop this area into a well-research evidence-based intervention for diverse populations, more studies that measure both trait mindfulness as well as the effectiveness of mindfulness—based interventions are needed. Additionally, testing the effectiveness of trait mindfulness in populations that have cultural and religious practices that are rooted in mindfulness can help us find new ways to aid in the recovery of cultural minorities. Further, cultural groups that typically do not respond well to traditional therapies might experience mindfulness-based approaches as less stigmatizing. While this is a reasonable hypothesis, substantiating it with research is essential.

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APPENDICES

APPENDIX A

Recruitment Statement

Hello,

You are invited to participate in a voluntary research study. The purpose of the study is to explore resilience, resilience factors, and challenges confronted by individuals such as mood problems and traumatic events and the survey will include questions related to these topics. You must be at least 18 years of age to complete this study. Participation will require you to complete a survey that will take around 1.5 hours of your time. You will receive 1.5 research credits for your participation. The research will be conducted by Kiranmayi Neelarambam (kneelarambam1@student.gsu.edu) and Dr. Greg Brack (gbrack@gsu.edu; 9th floor, GSU College of Education). Please e-mail Kiranmayi Neelarambam (kneelarambam1@student.gsu.edu) for further information.

Thank you,

Kiranmayi Neelarambam

APPENDIX B

Informed Consent and Referrals

Georgia State University
Department of Counseling and Psychological Services

Informed Consent
Title: Resilience, Mindfulness, and Emotion Regulation

Principal Investigator: Greg Brack, Ph.D.

Student Principal Investigator: Kiranmayi Neelarambam, M.S.

I. Purpose:

You are invited to participate in a research study. The purpose of the study is to investigate the roles played by resilience, mindfulness, and emotion regulation on one's mood and challenging experiences in life. You are invited to participate because you are eighteen years or older and are a college student. A total of 500-600 participants will be recruited for this study. Participation will require about 1.5 hours of your time. This is a one-time participation.

II. Procedures:

If you decide to participate, you will be asked to complete a series of questionnaires on a secure, online server. They take about one hour, and can be done from the privacy of your home. If you take part in this study, you will be asked to answer a series of questions about yourself. You will be asked to answer questions about positive and challenging aspects of yourself, your mood, and challenging experiences in your life. Some questions will also ask for background information (age, gender, race/ethnicity, etc.) and questions regarding experiences that you may consider to be traumatic events or highly stressful life circumstances. If you are currently in a state of crisis please discontinue your participation in this study. Participation in this research study will qualify you towards getting 1.5 hours of research credit towards your course grade. If you do not wish to participate in this research study, you can choose to complete the alternative assignment writing a paper on a peer-reviewed article as outlined in your course syllabus.

III. Risks:

There is a chance that participation in this study may cause you to feel uneasy due to the personal nature of the questionnaires. If you feel uneasy, you have several options:

1. If you do not want to answer any particular question, you have the freedom to skip it.
2. You can take a break and start answering questions again at a later time.
3. You have the choice not to finish the study for any reason.

4. If you would like to talk to a counselor, you are encouraged to contact the Georgia State Counseling and Testing Center at 404-413-1640. Their services are free to students and include individual therapy, group therapy, and a variety of workshops on topics such as stress reduction.
5. There are referral numbers located at the end of this informed consent. Please retain a copy of these referrals, and contact them if you need to. You will be responsible for any costs associated with the referrals (if applicable).

IV. Benefits:

Participation in this study may benefit you personally, although there are no guaranteed benefits to participation in this research study. You may enjoy completing the questionnaires, and may learn something about yourself and your strengths in the process. You may also receive the satisfaction of knowing your participation is contributing to expanding scientific knowledge. We are seeking to gain information about different people's experience of a depressed mood and trauma. We hope that this knowledge can be used to improve psychological treatments and prevention methods in working with people in potentially stressful or traumatic situations and in everyday life.

V. Voluntary Participation and Withdrawal:

Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:

We will keep your records private to the extent allowed by law. Kiranmayi Neelarambam, Greg Brack, and our research team will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP)). The survey is created on Qualtrics, a secure web-based survey program which uses highend secure servers to protect all data. We will use a participant number rather than your name on study records. There are many systems in place to help protect data security. The data is encrypted and password protected, and your IP address will not be collected. The data may also be stored on the research team's computers. These computers are password and firewall protected. Although many efforts are being made to ensure your privacy, no information sent over the internet can be guaranteed secure. Data will be anonymous, however, as your name is not connected to the data. Your name and other facts that might point to you will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. You will not be identified personally.

VII. Contact Persons:

Contact Greg Brack at 404-413-8165, gbrack@gsu.edu or Kiranmayi Neelarambam at kneelarambam1@student.gsu.edu if you have questions, concerns, or complaints about this study. You can also call if think you have been harmed by the study. Call Susan Vogtner in the Georgia State University Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu, if you want to talk to someone who is not part of the study team. You can talk about questions, concerns, or suggestions about the study. You can also call Susan Vogtner if you have questions or concerns about your rights in this study.

VIII. Copy of Consent Form to Subject:

Please print a copy of this form for your records. If you would like a hard copy, please email kneelarambam1@student.gsu.edu and we will arrange to get you one.

If you agree to participate in this research, please check the box indicating your consent and click on the continue button to proceed to the survey.

Should you feel uneasy after taking part in this study in this study, we encourage you to contact the GSU Counseling and Testing Center at 404-413-1640 if you would like to speak to a counselor about it. The Counseling Center provides services to GSU students free of charge. Additional numbers for resources and services are provided below, although, some of these services may have a fee associated with them, for which you will be responsible.

LOW COST Counseling Centers and Services:

Emory Psychological Center
1462 Clifton Road
Emory University Dental Building, Suite 235
404-727-7451 or 404-727-0399

Georgia State University Psychology Clinic
Urban Life Bldg., 10th Floor, Suite 1053
404-413-6229

Low cost therapy for students and the community. Individual session fees do not exceed \$15.00. Assessment, consultation & clinical services. Individual, child, adolescent, family, groups, and couples therapy. Intakes by appointment--call first. Clients must consent to a small battery of tests, conducted in the 90-minute interviews (cost \$30), as well as audio taping. (Alumni rates \$25) They will not see: clients with alcohol and drug issues, legal issues, or who are suicidal.

The Anxiety & Management Institute
1640 Powers Ferry Road SE, Building 9, Suite 100
Atlanta, Georgia 30067
770-980-9229 or 770-953-0080

Can slide as low as \$10.00 (Sometimes less)

The Grady System

Florida Hall: Need to obtain a Grady card

Grady System Walk-ins taken daily

60 Coca Cola Place

404-616-4786 Can slide as low as \$3.00

Bring GA Driver's license/State ID and 3 documents that show residence in Fulton/DeKalb. Must be items that show proof of residence such as utility bills, an apartment lease, a voter registration card. Students (if they have a student loan) must bring in financial aid award letter to document their receipt of that loan.

Village of St. Joseph Counseling Services – of Catholic Family Services (may have a Christian and/or Catholic perspective)

404-885-7425

600 West Peachtree St. Suite 600 Atlanta, Ga. 30308

Individual \$35.-\$110. Evaluations negotiable; couples \$35.-\$110. Some flexibility re: evening & weekend hours. Spanish-speaking counselors available.

You might also connect with Behavioral Health Link, an organization that provides assistance with locating state wide mental health access. 800-715-4225.

APPENDIX C

Demographic Questionnaire

1. Please indicate your age in years:
2. Please indicate your gender:
 - a) Male _____
 - b) Female _____
 - c) Transgender _____
3. Please circle the racial/ethnic group with which you identify
 - a. Asian/Pacific Islander, Please specify -

 - b. Black/African American, Please specify

 - c. Caucasian/White/European American, Please specify

 - d. South Asian, Please specify

 - e. Hispanic/Latino/Latina, Please specify

 - f. Middle Eastern, Please specify

 - g. Multiracial/ethnic, Please specify

 - h. Native American/American Indian, Please specify

 - i. Other, Please specify _____
4. Please indicate your spiritual/religious affiliation (if applicable)
 - a. Agnostic
 - b. Atheist
 - c. Buddhist/Taoist
 - d. Christian/Catholic
 - e. Christian/Protestant
 - f. Christian/Other
 - g. Hindu
 - h. Jewish
 - i. Muslim/Islam
 - j. Spiritual, but not religious
 - k. Wiccan/Pagan/Neo-Pagan, Please specify _____
 - l. Other, Please specify _____

5. Please write down your country of citizenship:

6. Please indicate your immigration history:

- a. 1st generation immigrant
- b. 2nd generation immigrant
- c. 3rd generation immigrant or more.

7. Please indicate your sexual orientation:

- a. Lesbian/gay
- b. Straight/heterosexual
- c. Bisexual
- d. Pan-sexual/omni-sexual

e. Other, Please specify _____

8. Please indicate your year in school:

- a. Freshman
- b. Sophomore
- c. Junior
- d. Senior

9. Please indicate if you are:

- a. 1st generation college student
- b. 2nd generation college student
- c. 3rd generation college student or more.

10. Please estimate your GPA: _____

11. Please indicate your marital status:

- a. Single
- b. In a monogamous dating relationship (i.e., dating only one person)
- c. In a non-monogamous dating relationship (i.e., dating more than one person)
- d. Married/Partnered
- e. Married/Partnered, but separated
- f. Divorced

12. Do you identify as an individual who has a disability (e.g., deaf, physical disability, etc.)

- a. Yes

Please specify _____

- b. No

13. Please indicate your socioeconomic status (SES):

- a. Low income
- b. Working class
- c. Middle class
- d. Wealthy